CENTERS FOR DISEASE CONTROL

April 26, 1991 / Vol. 40 / No. 16

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

Effectiveness in Prevention

Increasing Breast Cancer Screening Among the Medically Underserved – Dade County, Florida, September 1987–March 1991

Efforts to detect breast cancer at early stages are critical in reducing breast cancer-associated mortality. However, in the United States, different barriers (e.g., lack of insurance, limited access to medical care, and limited awareness of the importance of early diagnosis and treatment) prevent certain groups from using early detection services. To promote early detection of breast cancer among an estimated 67,000 medically underserved women aged ≥40 years, the Early Detection Program (EDP) was begun in Dade County, Florida, in the fall of 1987 (*1*). This report summarizes the progress of the program for September 1987 through March 1991.

Dade is a multiethnic urban county with a population consisting of Hispanics, non-Hispanic blacks, and non-Hispanic whites; 17% of Hispanics, 30% of non-Hispanic blacks, and 10% of all other groups are classified as living in poverty (*2*). The EDP was initiated by the Cancer Control Division of the Sylvester Comprehensive Cancer Center at the University of Miami School of Medicine (UMSM), which assembled a coalition* of southern Florida health-care agencies to plan cancer screening strategies for low-income older women. The coalition selected seven primary health-care centers and the Dade County Health Department as initial program sites because of their accessibility to the target population. In addition, the staff of each center reflects the community's racial and ethnic background, providing a culturally sensitive environment for delivery of this new health-care service.

Use of the primary health-care centers as a base for the EDP has helped to facilitate cancer screening services for the target population by enabling the referral of women to secondary services and providing continuity of care. Because the individual primary health-care centers were not equipped to perform mammograms on site, a

*The coalition included representatives from the UMSM; Jackson Memorial Medical Center; Dade County Public Health Unit, Florida Department of Health and Rehabilitative Services; Cancer Information Service; and American Cancer Society.

Breast Cancer Screening — Continued

mobile mammography van was purchased with funds from a UMSM private endowment. The van, staffed by two licensed radiology technologists, circulates on a fixed schedule among the primary health-care centers and provides low- or no-cost mammograms (the maximum charge is $25).

At each health-care center, the professional staff provides clinical breast examinations and instructs patients in breast self-examination. Radiologists at the UMSM read the mammograms and report the findings to the primary health-care centers. The centers, in turn, notify patients of results, make referrals, provide follow-up care, and maintain patient records. For biopsies, women are referred through an expedited system to the Breast Tumor Surgery Clinic at Jackson Memorial Medical Center.

During its first 2 years, the EDP provided an average of 15 mammograms each day the van was operating. During 1990, the American Cancer Society provided additional funding that enabled the program to expand services. Consequently, in 1991, the number of women screened has increased to an average of 22 per day.

Of the more than 9400 women screened through December 1990, 52.8% were Hispanic, 40.8% were non-Hispanic black, and 6.1% were non-Hispanic white (Table 1). Most (50.1%) were aged 50–69 years. Almost three fourths (74.0%) of the women screened reported they had never had a mammogram. Although 68.0% initially had negative mammograms, 27.7% received appointments for a second mammogram or further evaluation, and 4.3% were referred to physicians to determine whether biopsies were necessary. Of the 274 biopsies that have been performed, 57 (20.8%) were positive for cancer.

Reported by: CB McCoy, PhD, BB Nielsen, EdD, EJ Trapido, ScD, JJ Zavertnik, MD, EL Khoury, MA, Sylvester Comprehensive Cancer Center, Univ of Miami School of Medicine; HV McCoy, Dept of Health Svcs Administration, Florida International Univ; Dade County Public Health Unit, Florida Dept of Health and Rehabilitative Svcs, Miami, Florida. American Cancer Society, Atlanta, Georgia. Cancer Prevention and Control Br, Div of Chronic Disease Control and Community Intervention, Center for Chronic Disease Prevention and Health Promotion, CDC.

Editorial Note: Late-stage diagnosis of cancer contributes to the 10%–15% lower survival rate among women of low socioeconomic status (*3*). Because of their limited access to medical care and awareness of, or belief in, the importance of early cancer

TABLE 1. Characteristics of 9,434 patients and results from the Early Detection Program — Dade County, Florida, September 1987–December 1990

Patient characteristic	%	Result	%
Race/Ethnicity		**Mammography finding (n=11,632)†**	
Hispanic	52.8	Not suspicious for cancer	68.0
Non-Hispanic black	40.8	Additional evaluation	27.7
Non-Hispanic white	6.1	Suspicious for cancer	4.3
Unknown	0.3		
		Biopsy result (n=274)	
Age (yrs)		Negative	79.2
<40	15.2	Positive	20.8
40–49	29.0		
50–69	50.1	**Histologic result (n=57)**	
≥70	5.7	In situ	17.5
		Local	36.8
Previous mammogram (n=8,397)*		Regional	35.1
No	74.0	Distant	5.3
Yes	26.0	Unstaged	5.3

*This question was not asked of women during the beginning of the program.
†Includes screening, repeat, and follow-up mammograms.

Breast Cancer Screening — Continued

detection, these women may be considered "underserved" (*4*). In a recent assessment of breast cancer patients who were initially diagnosed from 1983 through 1988 at Jackson Memorial Medical Center, 5-year death rates were 52% and 30% for indigent patients and private patients, respectively (N. Love, Jackson Memorial Medical Center, unpublished data, 1990). This higher death rate among indigent patients was attributed, in large part, to diagnosis at more advanced stages of disease. For patients who were diagnosed at similar stages, the death rates were virtually identical.

Although the overall mammography rate for low-income women in the county cannot be estimated, the EDP has benefitted medically underserved women in Dade County and has established that low- or no-cost screening can be provided to underserved women. For the national health objectives for the year 2000, the estimated biennial baseline rates for mammography use among special target populations (such as those in Dade County) range from 15% to 19% (*5*). However, because 26% of the EDP's participants reported having had a previous mammogram, it is likely that the overall mammography rate among the target groups in Dade County is higher than the estimated baseline rate for women either recently screened or ever screened. Results of the EDP suggest that, if inability to pay and lack of insurance are eliminated as barriers, the long-term objective for breast cancer screening might be more readily achieved. Moreover, because participants are contacted for follow-up mammograms at recommended intervals, the benefits of the EDP should be sustained. However, the low level of participation among women aged ≥70 years indicates a need for increased education and recruitment efforts targeted for this specific group.

An extensive communitywide education campaign stressing cancer prevention and early detection has helped to increase enrollment in the EDP. The educational campaign focuses on four topics: the warning signs of cancer, the value of early detection, prevention and risk reduction, and availability of medical care. Printed materials on early detection are also distributed at the community health-care centers, from the mammography van, and during educational programs at religious and community centers. Additional information regarding the program is available from Clyde B. McCoy, Ph.D., The Fox Building, Room 309, 1550 NW 10th Avenue (D4-11), Miami, FL 33136; telephone (305) 547-6005.

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Epidemiologic Notes and Reports

Outbreaks of Rubella Among the Amish — United States, 1991

From January 1 through April 19, 1991, at least nine outbreaks of rubella, involving more than 400 cases, have been reported in Amish communities in the United States. These outbreaks have been reported from Mecosta and Montcalm counties, Michigan; Allegany, Cattaraugus, Chautauqua, and St. Lawrence counties, New York; Geauga, Knox, and Trumbull counties, Ohio; and Lawrence County, Tennessee. In addition, serologically confirmed cases of rubella have been reported from Amish communities in six Pennsylvania counties, suggesting widespread rubella activity among the Amish in Pennsylvania. In general, cases have occurred among unvaccinated children and young adults.

In 1990, three linked outbreaks causing an estimated 171 cases occurred in Amish communities in Minnesota, New York, and Ohio. No cases of congenital rubella syndrome (CRS) associated with these outbreaks have been reported. However, during 1990, rubella outbreaks not involving Amish communities occurred among unvaccinated adolescents and adults in the western United States (*1*); as a result, for 1990, at least 16 confirmed or compatible indigenous CRS cases and six additional provisional cases occurred and have been reported to the National Congenital Rubella Syndrome Registry.

Reported by: KR Wilcox, Jr, MD, State Epidemiologist, Michigan Dept of Public Health. GS Birkhead, MD, G Koops, S Thompson, DL Morse, MD, State Epidemiologist, New York State Dept of Health. TJ Halpin, MD, State Epidemiologist, Ohio Dept of Health. DR Tavris, MD, State Epidemiologist, Pennsylvania Dept of Health. R Hutcheson, MD, State Epidemiologist, Tennessee Dept of Health. Div of Immunization, Center for Prevention Svcs, CDC.

Editorial Note: Because interstate and intrastate travel to other Amish communities is common among the Amish population, state and local health departments and clinicians should be alerted to the risk for local outbreaks of rubella among Amish communities. Many rubella infections cause only mild illness; therefore, outbreaks may remain unreported unless active surveillance for cases is conducted. In addition, active surveillance should be conducted for cases of CRS that may result from large outbreaks of rubella. Amish communities should be alerted to the risk for rubella outbreaks; the consequences of rubella infection during the first trimester of pregnancy; and the importance of increasing vaccination levels in their communities, especially among women of childbearing age and children.

During the past 5 years, outbreaks of other vaccine-preventable diseases, such as measles (*2*) and pertussis, have been reported from Amish communities. Although vaccination coverage among the Amish is low, some health departments report that, with vigorous effort, many Amish will accept vaccination.

Health-care providers are encouraged to report rubella cases to local and state health departments. State health departments are requested to report rubella outbreaks and suspected cases of CRS to the Surveillance, Investigations, and Research Branch, Division of Immunization, Center for Prevention Services, CDC, Mailstop E-05, 1600 Clifton Road, NE, Atlanta, GA 30333; telephone (404) 639-1870.

References

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Rubella — Continued

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Foodborne Outbreak of Gastroenteritis Caused by *Escherichia coli* O157:H7 — North Dakota, 1990

In late July and early August 1990, an outbreak of gastroenteritis occurred among persons who had eaten a meal while attending an agricultural threshing show in North Dakota on July 28–29. At least 70 (3.5%) of the more than 2000 attendees were affected; of these, 16 persons were hospitalized, and two children, aged 2 and 8 years, were diagnosed with hemolytic uremic syndrome. An epidemiologic investigation was conducted by the North Dakota State Department of Health and Consolidated Laboratories.

A case was defined as gastrointestinal illness in a person 2–5 days after eating at the threshing show. Of the 70 case-patients, 65 (93%) had diarrhea; 55 (79%), abdominal cramping; 27 (39%), bloody diarrhea; and 21 (30%), nausea. The mean age of case-patients was 38 years (range: 2–82 years); 36 (51%) were women. Onset of cases occurred from July 30 through August 2, with a peak (22 [31%] cases) on July 31. For those who reported having bloody diarrhea, the mean incubation period from the time the implicated meal was eaten on July 28 to onset of symptoms was 74.6 hours (range: 32.3–132.0 hours).

Stool samples obtained from 20 ill persons were analyzed by the Division of Microbiology of the North Dakota State Department of Health and Consolidated Laboratories. *Escherichia coli*, serotype O157:H7, was isolated from eight of the samples. The positive samples were collected during August 2–4, from 1 to 4 days after onset of symptoms; negative samples were obtained 4–20 days after onset of symptoms. Analysis by CDC confirmed the isolate results and detected both Shiga-like toxins I and II (verocytotoxin 1 and 2).

Analysis of food histories obtained from 157 persons implicated a buffet-style dinner on July 28. Although food samples were not available at the time of the investigation, food history analysis indicated that roast beef served at the dinner was the most likely source of infection (Table 1): ill persons were more likely to report having eaten rare roast beef (chi-square test for linear trend = 5.4, $p = 0.02$) and/or cool roast beef (chi-square test for linear trend = 7.6, $p = 0.006$).

Sixteen inside round roasts had been special-ordered from a local grocer for the dinner; none had been sold to local customers. Fourteen of the roasts were skewered on a noncommercial grade metal spit and rotated in a closed drum above a charcoal fire for approximately 10 hours; the temperature of some of the roasts reportedly registered 140 F (60 C). Two other roasts were prepared in enamel-lined electric roasting pans set to cook at 300 F (149 C) according to the temperature dials on the pans; no temperatures were recorded for these roasts.

All roasts were sliced and served from the electric roasting pans. During the serving period (approximately 5–8 p.m.), the pans were not cleaned but were refilled with slices from other roasts.

Escherichia coli — *Continued*

Reported by: S McDonough, MD, Preventive Health Section; F Heer, Div of Disease Control; L Shireley, MPH, State Epidemiologist, North Dakota State Dept of Health and Consolidated Laboratories. Enteric Diseases Br, Div of Bacterial and Mycotic Diseases, Center for Infectious Diseases, CDC.

Editorial Note: Since *E. coli* O157:H7 was first reported as a cause of bloody diarrhea in 1982, infection with this pathogen has emerged as an important cause of both bloody and nonbloody diarrhea in the United States; in some cases, infection with this organism results in hemolytic uremic syndrome and thrombotic thrombocytopenic purpura (*1–8*). Young children and the elderly are at increased risk for these more severe complications (*2,4,6,7*).

Transmission of this organism has been documented through food (*1,3–5*); person-to-person contact (*6,7*); and, rarely, contaminated water (*8*). Foodborne outbreaks have been most commonly associated with undercooked ground beef; some sporadic cases have been associated with drinking unpasteurized milk. A reservoir in healthy dairy cattle has been documented (*5,9*).

The outbreak in North Dakota is the second instance in which roast beef has been implicated as the vehicle of transmission. Because thorough cooking kills *E. coli* O157:H7, cooking beef until a meat thermometer reads ≥140 F (≥60 C) will reduce the risk for this infection. If cooked beef is to be kept hot, the holding temperature should be at least 140 F (60 C). Although the precise source of the outbreak in North Dakota is unknown, inadequate cooking and possible cross-contamination of cooked, sliced roast beef as a result of the food-preparation and serving techniques may have contributed to the outbreak.

In many clinical laboratories, testing for *E. coli* is not routinely done. The yield of cultures is likely to be highest when specimens are obtained within 6 days of onset of illness (*10*) in patients with grossly bloody diarrhea and abdominal cramps. A request for culture should specify sorbitol MacConkey agar; *E. coli* O157:H7 ferments sorbitol slowly and appears sorbitol-negative at 24 hours. Suspected sorbitol-negative colonies can be confirmed using commercial antiserum. Most state and territorial public health laboratories are able to confirm isolates.

The North Dakota State Department of Health and Consolidated Laboratories has made laboratory isolation of *E. coli* reportable and is conducting surveillance for this pathogen.

TABLE 1. Description of roast beef eaten at a threshing show dinner and implicated in an outbreak of *Escherichia coli*, by attendee status — North Dakota, 1990

	Degree of cooking of roast beef*					
Attendee status	**Rare†**	**Medium**	**Done**	**Well**	**Unknown**	**Total**
Ill§	5	7	15	0	0	27
Well	3	15	17	14	2	51

	Temperature of roast beef at serving				
Attendee status	**Hot**	**Warm**	**Cool¶**	**Unknown**	**Total**
Ill§	1	22	3	1	27
Well	10	39	0	2	51

*Rare = bloody; medium = pink, not bloody; done = brown, not pink; well = brown, dry.
†Chi-square test = 12.2, p = 0.007; chi-square test for linear trend = 5.4, p = 0.02.
§Persons had bloody diarrhea.
¶Chi-square test = 8.9, p = 0.01; chi-square test for linear trend = 7.6, p = 0.006.

Escherichia coli — *Continued*

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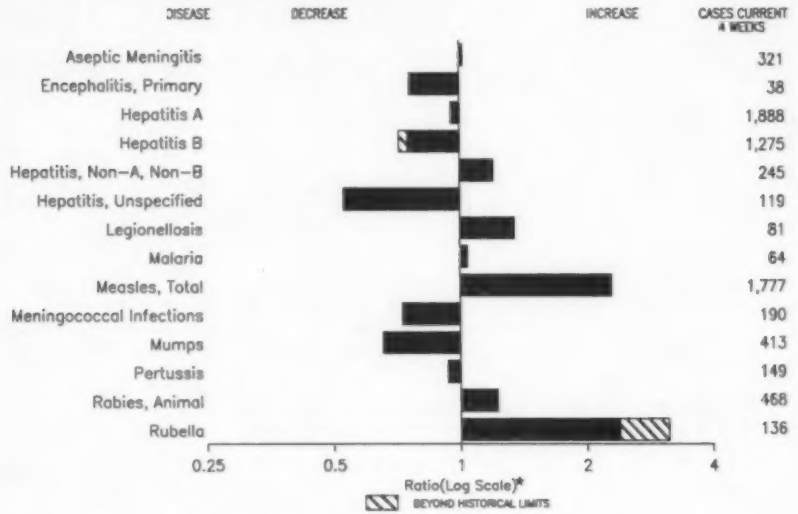
FIGURE I. Notifiable disease reports, comparison of 4-week totals ending April 20, 1991, with historical data — United States



*Ratio of current 4-week total to the mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

TABLE I. Summary — cases of specified notifiable diseases, United States, cumulative, week ending April 20, 1991 (16th Week)

	Cum. 1991		Cum. 1991
AIDS	12,639	Measles: imported	41
Anthrax	-	indigenous	3,235
Botulism: Foodborne	5	Plague	-
Infant	14	Poliomyelitis, Paralytic*	-
Other	4	Psittacosis	26
Brucellosis	15	Rabies, human	-
Cholera	-	Syphilis, primary & secondary	12,857
Congenital rubella syndrome	7	Syphilis, congenital, age < 1 year	8
Diphtheria	1	Tetanus	6
Encephalitis, post-infectious	22	Toxic shock syndrome	109
Gonorrhea	171,314	Trichinosis	7
Haemophilus influenzae (invasive disease)	1,176	Tuberculosis	5,860
Hansen Disease	33	Tularemia	21
Leptospirosis	24	Typhoid fever	93
Lyme Disease	1,299	Typhus fever, tickborne (RMSF)	17

*No cases of suspected poliomyelitis have been reported in 1991; none of the 6 suspected cases in 1990 have been confirmed to date. Five of the 13 suspected cases in 1989 were confirmed and all were vaccine associated.

TABLE II. Cases of selected notifiable diseases, United States, weeks ending April 20, 1991, and April 21, 1990 (16th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea		Hepatitis (Viral), by type				Legionellosis	Lyme Disease
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	Cum. 1991	Cum. 1991	Cum. 1991	Cum. 1991	Cum. 1991	Cum. 1990	Cum. 1991	Cum. 1991	Cum. 1991	Cum. 1991	Cum. 1991	Cum. 1991
UNITED STATES	12,639	1,477	171	22	171,314	208,695	7,938	4,891	914	442	344	1,299
NEW ENGLAND	587	63	8	-	4,601	5,837	175	282	39	12	30	44
Maine	22	4	3	-	37	84	5	7	2	-	-	-
N.H.	15	4	-	-	111	78	15	8	3	-	1	3
Vt.	8	7	-	-	16	23	9	2	3	-	-	1
Mass.	349	22	3	-	1,902	2,210	96	218	24	10	28	30
R.I.	19	22	-	-	369	308	26	12	5	2	1	10
Conn.	174	4	2	-	2,166	3,134	24	35	2	-	-	-
MID. ATLANTIC	3,649	188	15	7	20,342	28,761	577	431	77	12	103	1,023
Upstate N.Y.	479	95	7	5	3,888	4,038	376	197	50	6	37	847
N.Y. City	2,064	9	-	-	6,879	12,336	25	6	-	-	3	-
N.J.	749	-	-	-	3,428	4,792	72	118	11	-	11	176
Pa.	357	84	8	2	6,147	7,595	104	110	16	6	52	-
E.N. CENTRAL	881	269	49	4	32,852	40,235	860	598	128	18	63	50
Ohio	203	95	14	1	10,276	12,385	144	146	68	8	34	31
Ind.	62	29	5	1	3,369	3,307	139	67	1	-	4	-
Ill.	399	44	10	2	10,178	12,165	343	72	12	1	2	-
Mich.	150	92	18	-	7,466	9,742	121	196	39	9	17	19
Wis.	67	9	2	-	1,563	2,636	133	117	8	-	6	-
W.N. CENTRAL	353	96	9	3	8,640	10,819	937	214	105	8	16	9
Minn.	67	19	5	-	908	1,284	117	17	7	1	4	2
Iowa	27	22	-	1	533	847	24	11	6	1	-	5
Mo.	207	36	2	2	5,225	6,319	216	160	89	4	7	-
N. Dak.	4	-	-	-	11	52	19	3	2	1	-	-
S. Dak.	-	4	2	-	122	64	393	1	-	-	3	-
Nebr.	18	7	-	-	614	510	142	11	-	-	2	-
Kans.	30	8	-	-	1,227	1,743	26	11	1	1	-	2
S. ATLANTIC	2,991	360	33	7	51,737	57,931	556	1,103	140	88	45	54
Del.	22	8	1	-	692	866	5	16	3	2	-	11
Md.	247	40	4	-	4,977	5,844	117	156	29	5	14	24
D.C.	193	12	-	-	3,233	3,154	36	36	1	1	-	-
Va.	275	61	10	-	4,990	5,576	60	76	9	64	4	8
W. Va.	10	2	1	-	366	420	9	27	1	3	-	2
N.C.	101	39	10	-	9,734	9,919	64	192	56	-	6	6
S.C.	107	10	-	-	3,929	4,789	16	263	15	2	7	-
Ga.	485	33	5	1	13,341	12,992	63	133	8	-	2	2
Fla.	1,551	155	2	6	10,475	14,371	186	204	18	11	12	1
E.S. CENTRAL	324	84	7	-	15,578	17,345	74	362	110	3	20	35
Ky.	54	22	2	-	1,516	2,050	9	64	5	2	11	14
Tenn.	104	16	4	-	6,001	5,728	46	246	100	-	6	17
Ala.	94	30	1	-	3,940	5,614	18	51	5	1	3	4
Miss.	72	16	-	-	4,121	3,953	1	1	-	-	-	-
W.S. CENTRAL	963	116	10	-	18,194	21,321	1,113	515	27	61	14	20
Ark.	42	27	1	-	2,104	2,753	123	34	1	2	2	7
La.	181	8	1	-	3,725	4,133	41	81	1	2	5	-
Okla.	48	1	3	-	1,951	1,931	119	84	15	8	4	12
Tex.	692	80	5	-	10,414	12,504	830	316	10	49	3	1
MOUNTAIN	383	59	8	1	3,353	4,495	1,427	334	43	76	29	3
Mont.	6	2	-	-	24	49	47	29	2	4	1	-
Idaho	5	-	-	-	54	32	23	35	-	-	3	-
Wyo.	6	-	-	-	39	54	75	5	-	-	-	3
Colo.	157	17	1	1	677	1,272	155	51	11	11	4	-
N. Mex.	39	6	-	-	378	359	454	64	6	25	1	-
Ariz.	72	18	7	-	1,361	1,762	442	69	5	30	10	-
Utah	19	8	-	-	114	140	112	16	9	6	4	-
Nev.	79	8	-	-	706	827	119	65	10	-	6	-
PACIFIC	2,508	242	32	-	16,017	21,951	2,199	1,052	245	164	24	61
Wash.	182	-	2	-	1,328	2,077	204	180	57	8	1	-
Oreg.	61	-	-	-	598	815	124	102	41	2	1	-
Calif.	2,207	215	30	-	13,636	18,532	1,792	761	136	153	21	61
Alaska	8	8	-	-	237	380	69	10	9	1	-	-
Hawaii	50	19	-	-	218	147	10	19	2	-	1	-
Guam	-	-	-	-	-	85	-	-	-	-	-	-
P.R.	490	77	-	1	190	347	32	134	29	18	-	-
V.I.	2	-	-	-	200	148	-	3	-	-	-	-
Amer. Samoa	-	-	-	-	-	39	-	-	-	-	-	-
C.N.M.I.	-	-	-	-	-	63	-	-	-	-	-	-

N: Not notifiable U: Unavailable C.N.M.I.: Commonwealth of the Northern Mariana Islands

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending April 20, 1991, and April 21, 1990 (16th Week)

Reporting Area	Malaria	Measles (Rubeola)					Meningococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total									
	Cum. 1991	1991	Cum. 1991	1991	Cum. 1991	Cum. 1990	Cum. 1991	1991	Cum. 1991	1991	Cum. 1991	Cum. 1990	1991	Cum. 1991	Cum. 1990
UNITED STATES	282	485	3,235	3	41	6,077	769	90	1,334	54	650	927	79	294	245
NEW ENGLAND	23	-	9	-	2	116	56	-	11	-	95	100	-	1	3
Maine	1	-	-	-	-	27	4	-	-	-	11	4	-	-	-
N.H.	2	-	-	-	-	8	6	-	3	-	11	10	-	1	-
Vt.	1	-	5	-	-	1	8	-	-	-	3	3	-	-	-
Mass.	12	-	-	-	-	5	29	-	-	-	54	75	-	-	-
R.I.	4	-	-	-	-	26	-	-	2	-	-	-	-	-	1
Conn.	3	-	4	-	2	49	9	-	6	-	6	8	-	-	2
MID. ATLANTIC	25	386	1,926	-	-	586	74	2	136	2	69	260	73	169	2
Upstate N.Y.	9	-	1	-	-	240	42	-	47	2	40	211	72	160	1
N.Y. City	3	300	725	-	-	71	2	-	-	-	-	-	-	-	-
N.J.	8	-	113	-	-	37	13	-	44	-	1	13	-	-	-
Pa.	5	86	1,087	-	-	248	17	2	45	-	28	36	1	9	1
E.N. CENTRAL	25	-	47	-	4	2,435	106	8	135	34	131	246	-	15	15
Ohio	6	-	-	-	1	210	35	-	27	31	63	47	-	-	-
Ind.	2	-	-	-	-	218	8	1	4	3	23	38	-	1	-
Ill.	9	-	20	-	-	1,019	30	-	57	-	18	88	-	3	14
Mich.	7	-	25	-	-	337	26	7	42	-	19	32	-	11	-
Wis.	1	-	2	-	3	651	7	-	5	-	8	41	-	-	1
W.N. CENTRAL	8	2	10	-	1	216	44	4	52	3	50	29	2	7	-
Minn.	2	2	3	-	1	39	9	2	4	1	16	-	-	4	-
Iowa	2	-	7	-	-	21	[]	-	9	-	4	3	2	2	-
Mo.	3	-	-	-	-	54	19	2	12	2	18	20	-	1	-
N. Dak.	1	-	-	-	-	-	1	-	-	-	1	1	-	-	-
S. Dak.	-	-	-	-	-	7	1	-	-	-	1	1	-	-	-
Nebr.	-	-	-	-	-	65	3	-	3	-	4	1	-	-	-
Kans.	-	-	-	-	-	30	9	-	24	-	6	3	-	-	-
S. ATLANTIC	61	14	189	-	9	387	140	31	456	2	35	71	1	11	11
Del.	1	1	17	-	-	6	-	-	2	-	-	2	-	-	-
Md.	19	5	63	-	-	46	16	13	113	-	7	19	-	9	-
D.C.	4	-	-	-	-	3	-	5	12	-	-	5	-	-	1
Va.	10	-	15	-	3	23	12	-	19	-	4	7	-	-	-
W. Va.	1	-	-	-	-	6	4	2	10	-	6	7	-	-	-
N.C.	2	-	1	-	-	3	32	2	78	-	7	13	-	-	-
S.C.	4	-	12	-	-	1	20	5	83	-	-	3	-	-	-
Ga.	5	-	-	-	-	6	31	-	12	-	6	10	-	-	-
Fla.	15	8	81	-	6	293	25	4	127	2	5	5	1	2	10
E.S. CENTRAL	2	-	4	-	-	50	58	3	31	2	21	30	-	-	1
Ky.	1	-	-	-	-	3	22	-	-	-	-	-	-	-	-
Tenn.	-	-	4	-	-	18	17	3	16	-	10	12	-	-	1
Ala.	1	-	-	-	-	4	19	-	3	2	11	16	-	-	-
Miss.	-	-	-	-	-	25	-	-	12	-	-	2	-	-	-
W.S. CENTRAL	15	-	-	-	5	613	59	11	160	-	14	10	-	1	1
Ark.	1	-	-	-	5	8	10	-	23	-	-	1	-	1	1
La.	2	-	-	-	-	-	16	-	10	-	7	1	-	-	-
Okla.	1	-	-	-	-	122	8	-	5	-	7	8	-	-	-
Tex.	11	-	-	-	-	483	25	11	122	-	-	-	-	-	-
MOUNTAIN	12	1	159	-	10	301	33	10	88	6	87	80	-	1	11
Mont.	1	-	-	-	-	1	4	-	-	-	-	-	-	-	5
Idaho	1	-	-	-	2	16	6	-	5	1	18	9	-	-	3
Wyo.	-	-	-	-	-	-	1	-	3	-	3	-	-	-	-
Colo.	3	-	-	-	1	31	6	6	23	5	36	48	-	-	2
N. Mex.	1	1	76	-	3	66	4	N	N	-	12	4	-	-	-
Ariz.	5	-	71	-	-	101	8	2	40	-	6	10	-	-	-
Utah	1	-	2	-	4	-	-	-	11	-	10	5	-	-	-
Nev.	-	-	10	-	-	86	4	2	6	-	-	4	-	1	1
PACIFIC	111	82	891	3	10	1,363	199	21	265	5	158	101	3	89	201
Wash.	9	-	1	-	3	39	22	3	68	4	45	31	-	-	-
Oreg.	2	6	14	15	1	112	23	N	N	1	28	9	-	-	-
Calif.	98	76	874	21	6	1,140	147	17	185	-	56	51	3	88	197
Alaska	-	-	-	-	-	70	6	-	4	-	4	-	-	-	-
Hawaii	2	-	2	-	-	2	1	1	8	-	25	10	-	1	4
Guam	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-
P.R.	1	-	8	-	1	472	14	-	7	4	12	4	-	1	-
V.I.	-	-	-	-	-	3	-	-	4	-	-	-	-	-	-
Amer. Samoa	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-
C.N.M.I.	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-

*For measles only, imported cases includes both out-of-state and international importations.
N: Not notifiable U: Unavailable †International §Out-of-state

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending April 20, 1991, and April 21, 1990 (16th Week)

Reporting Area	Syphilis (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1991	Cum. 1990	Cum. 1991	Cum. 1991	Cum. 1990	Cum. 1991	Cum. 1991	Cum. 1991	Cum. 1991
UNITED STATES	12,857	14,857	109	5,880	6,419	21	93	17	1,495
NEW ENGLAND	355	586	6	143	130	1	9	2	4
Maine	-	5	3	-	-	-	1	-	-
N.H.	10	31	1	-	3	-	-	-	1
Vt.	1	1	-	1	2	-	-	-	-
Mass.	176	205	2	74	60	1	8	2	-
R.I.	16	1	-	16	25	-	-	-	-
Conn.	152	343	-	52	40	-	-	-	3
MID. ATLANTIC	2,249	3,228	17	1,339	1,591	-	12	-	470
Upstate N.Y.	103	218	9	98	158	-	5	-	159
N.Y. City	1,122	1,592	-	825	956	-	2	-	-
N.J.	404	486	-	256	265	-	4	-	211
Pa.	620	933	8	160	212	-	1	-	100
E.N. CENTRAL	1,432	950	21	671	595	1	10	-	21
Ohio	181	145	13	105	78	-	2	-	4
Ind.	29	9	-	34	37	-	-	-	-
Ill.	736	360	4	366	301	-	2	-	4
Mich.	335	306	4	131	157	1	5	-	3
Wis.	151	130	-	35	22	-	1	-	10
W.N. CENTRAL	205	131	24	158	161	4	2	1	195
Minn.	25	32	7	32	26	-	2	-	64
Iowa	21	10	5	24	20	-	-	-	41
Mo.	130	63	6	67	73	4	-	1	4
N. Dak.	-	1	-	2	9	-	-	-	19
S. Dak.	1	1	1	11	4	-	-	-	46
Nebr.	1	4	1	6	10	-	-	-	8
Kans.	27	20	4	16	19	-	-	-	13
S. ATLANTIC	3,910	4,636	7	1,089	1,153	2	20	10	384
Del.	47	61	1	8	15	-	-	-	46
Md.	345	367	-	97	101	-	7	1	137
D.C.	237	274	-	64	37	-	1	-	5
Va.	319	249	2	101	98	-	3	-	79
W. Va.	10	5	-	29	21	-	1	-	22
N.C.	602	548	4	115	148	1	-	8	-
S.C.	464	258	-	121	139	-	-	-	30
Ga.	958	1,073	-	213	177	-	3	1	55
Fla.	928	1,801	-	321	417	1	5	-	10
E.S. CENTRAL	1,330	1,294	5	366	547	2	-	2	47
Ky.	29	24	2	98	130	1	-	1	13
Tenn.	487	511	3	42	178	1	-	-	18
Ala.	456	410	-	124	154	-	-	1	16
Miss.	358	349	-	102	85	-	-	-	-
W.S. CENTRAL	2,211	2,416	4	589	740	6	3	2	209
Ark.	147	157	2	59	73	4	-	-	13
La.	726	728	-	31	113	-	1	-	3
Okla.	48	72	2	42	55	2	-	2	63
Tex.	1,290	1,459	-	457	489	-	2	-	130
MOUNTAIN	211	239	11	177	122	4	4	-	30
Mont.	1	-	-	-	4	3	-	-	8
Idaho	3	4	-	2	3	-	-	-	1
Wyo.	1	1	-	2	1	1	-	-	17
Colo.	17	20	1	6	6	-	-	-	1
N. Mex.	45	16	3	35	26	-	-	-	1
Ariz.	125	157	3	83	61	-	3	-	2
Utah	3	2	4	25	3	-	-	-	-
Nev.	16	39	-	24	18	-	1	-	-
PACIFIC	954	1,377	14	1,348	1,380	1	33	-	135
Wash.	42	149	1	85	91	1	-	-	-
Oreg.	27	37	-	33	38	-	2	-	1
Calif.	880	1,175	13	1,148	1,177	-	30	-	130
Alaska	2	5	-	18	18	-	-	-	3
Hawaii	3	11	-	64	56	-	1	-	1
Guam	-	1	-	-	15	-	-	-	-
P.R.	130	150	-	48	29	-	-	-	10
V.I.	69	1	-	1	2	-	-	-	-
Amer. Samoa	-	-	-	-	7	-	-	-	-
C.N.M.I.	-	-	-	-	14	-	-	-	-

U: Unavailable

TABLE III. Deaths in 121 U.S. cities,* week ending April 20, 1991 (16th Week)

Reporting Area	All Causes, By Age (Years)						P&I**	Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-64	25-44	1-24	<1	Total		All Ages	≥65	45-64	25-44	1-24	<1	Total
NEW ENGLAND	610	435	101	50	12	10	42	S. ATLANTIC	1,127	713	225	130	36	23	58
Boston, Mass.	164	100	28	22	9	4	15	Atlanta, Ga.	155	91	33	24	2	5	3
Bridgeport, Conn.	37	28	6	2	-	-	2	Baltimore, Md.	230	146	41	30	9	4	16
Cambridge, Mass.	29	24	4	1	-	-	1	Charlotte, N.C.	89	59	19	9	1	1	5
Fall River, Mass.	37	30	4	3	-	-	-	Jacksonville, Fla.	121	77	25	8	7	4	7
Hartford, Conn.	43	27	7	7	-	2	1	Miami, Fla.	103	55	20	22	5	1	-
Lowell, Mass.	23	20	2	1	-	-	2	Norfolk, Va.	50	27	9	10	2	2	6
Lynn, Mass.	11	11	-	-	-	-	1	Richmond, Va.	67	37	21	5	4	-	4
New Bedford, Mass.	23	17	4	-	2	-	1	Savannah, Ga.	38	22	10	3	2	1	3
New Haven, Conn.	34	26	5	2	-	1	-	St. Petersburg, Fla.	69	52	14	2	1	-	1
Providence, R.I.	63	42	15	5	-	1	5	Tampa, Fla.	180	124	32	16	3	5	13
Somerville, Mass.	8	7	1	-	-	-	-	Washington, D.C.§	U	U	U	U	U	U	U
Springfield, Mass.	44	28	13	3	-	-	3	Wilmington, Del.	25	23	1	1	-	-	-
Waterbury, Conn.	20	18	2	-	-	-	1	E.S. CENTRAL	744	506	147	53	28	10	47
Worcester, Mass.	74	57	10	4	1	2	10	Birmingham, Ala.	117	80	14	12	5	6	2
MID. ATLANTIC	2,900	1,883	572	308	60	75	159	Chattanooga, Tenn.	50	33	14	1	2	-	6
Albany, N.Y.	57	42	9	2	1	3	3	Knoxville, Tenn.	89	67	17	4	-	1	11
Allentown, Pa.	32	27	5	-	-	-	2	Louisville, Ky.	69	45	17	3	3	1	6
Buffalo, N.Y.	102	71	22	5	3	1	3	Memphis, Tenn.	176	117	36	12	11	-	10
Camden, N.J.	35	19	12	-	1	3	1	Mobile, Ala.	90	62	17	5	5	1	3
Elizabeth, N.J.	36	20	8	8	-	-	6	Montgomery, Ala.	59	41	10	6	2	-	5
Erie, Pa.†	45	35	6	3	1	-	2	Nashville, Tenn.	94	61	22	10	-	1	4
Jersey City, N.J.	49	27	11	6	2	2	1	W.S. CENTRAL	1,415	889	284	135	69	38	68
New York City, N.Y.	1,457	887	299	201	33	37	66	Austin, Tex.	44	26	10	5	2	1	3
Newark, N.J.	73	31	16	17	3	6	3	Baton Rouge, La.	44	27	9	4	4	-	4
Paterson, N.J.	26	14	3	6	1	2	2	Corpus Christi, Tex.	50	33	7	5	3	2	-
Philadelphia, Pa.	511	348	98	45	12	8	32	Dallas, Tex.	208	128	42	16	12	10	6
Pittsburgh, Pa.†	68	51	10	1	-	6	5	El Paso, Tex.	65	41	15	5	2	2	5
Reading, Pa.	48	35	12	1	-	-	14	Ft. Worth, Tex.	91	52	18	14	5	2	1
Rochester, N.Y.	123	90	23	4	2	4	5	Houston, Tex.	329	195	69	39	19	7	24
Schenectady, N.Y.	30	22	5	3	-	-	-	Little Rock, Ark.	69	48	9	3	5	4	-
Scranton, Pa.†	34	25	4	3	1	1	2	New Orleans, La.	170	108	36	19	7	-	-
Syracuse, N.Y.	98	77	17	2	-	1	4	San Antonio, Tex.	200	129	45	17	4	5	14
Trenton, N.J.	27	20	6	-	-	1	3	Shreveport, La.	55	38	12	2	1	2	2
Utica, N.Y.	19	15	3	1	-	-	-	Tulsa, Okla.	90	64	12	6	5	3	9
Yonkers, N.Y.	30	27	3	-	-	-	5	MOUNTAIN	778	525	151	54	21	27	41
E.N. CENTRAL	2,256	1,364	430	258	128	76	132	Albuquerque, N.M.	83	55	13	7	6	2	2
Akron, Ohio	67	44	12	7	2	2	3	Colo. Springs, Colo.	46	30	9	4	2	1	7
Canton, Ohio	26	20	4	1	1	-	2	Denver, Colo.	114	69	24	10	5	6	8
Chicago, Ill.	468	185	82	114	73	14	18	Las Vegas, Nev.	162	118	29	8	3	4	9
Cincinnati, Ohio	177	116	39	11	3	8	27	Ogden, Utah	27	21	4	-	1	1	6
Cleveland, Ohio	142	85	32	10	7	8	5	Phoenix, Ariz.	139	88	28	12	1	10	-
Columbus, Ohio	190	120	42	16	2	10	10	Pueblo, Colo.	20	14	2	4	-	-	1
Dayton, Ohio	136	95	23	10	5	3	13	Salt Lake City, Utah	40	26	9	3	1	1	1
Detroit, Mich.	232	120	53	39	12	8	6	Tucson, Ariz.	147	104	33	6	2	2	7
Evansville, Ind.	49	34	10	3	1	1	1	PACIFIC	1,866	1,275	300	164	65	49	151
Fort Wayne, Ind.	66	51	12	3	-	-	4	Berkeley, Calif.	24	22	1	1	-	-	2
Gary, Ind.	14	7	6	1	-	-	1	Fresno, Calif.	67	47	8	9	2	1	4
Grand Rapids, Mich.	67	41	9	8	5	4	5	Glendale, Calif.	23	19	2	2	-	-	1
Indianapolis, Ind.	153	104	26	10	6	7	9	Honolulu, Hawaii	87	68	12	4	-	3	17
Madison, Wis.	49	31	8	6	2	2	3	Long Beach, Calif.	92	63	16	4	5	4	11
Milwaukee, Wis.	117	91	18	3	3	2	9	Los Angeles, Calif.	432	261	82	49	21	10	21
Peoria, Ill.	45	35	6	2	2	-	1	Oakland, Calif.§	U	U	U	U	U	U	U
Rockford, Ill.	50	38	7	3	1	1	3	Pasadena, Calif.	30	20	5	3	-	2	4
South Bend, Ind.	30	18	8	2	-	2	2	Portland, Oreg.	136	94	24	8	7	3	13
Toledo, Ohio	117	85	21	6	2	4	7	Sacramento, Calif.	145	100	22	6	9	8	17
Youngstown, Ohio	61	44	12	4	1	-	3	San Diego, Calif.	152	101	23	15	11	2	21
W.N. CENTRAL	784	568	127	46	23	20	82	San Francisco, Calif.	170	112	32	20	1	2	3
Des Moines, Iowa	74	52	11	4	3	4	6	San Jose, Calif.	189	127	38	13	2	8	15
Duluth, Minn.	30	26	1	-	1	2	-	Seattle, Wash.	168	117	24	23	3	1	4
Kansas City, Kans.	44	21	18	4	1	-	2	Spokane, Wash.	56	49	5	1	-	1	7
Kansas City, Mo.	105	69	21	6	5	4	5	Tacoma, Wash.	95	75	6	6	4	4	11
Lincoln, Nebr.	36	29	5	2	-	-	3	TOTAL	12,480††	8,158	2,337	1,198	442	328	750
Minneapolis, Minn.	155	123	18	9	3	2	17								
Omaha, Nebr.	93	66	18	3	3	3	9								
St. Louis, Mo.	136	101	18	12	5	-	7								
St. Paul, Minn.	44	32	9	1	-	2	2								
Wichita, Kans.	67	49	8	5	2	3	1								

*Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

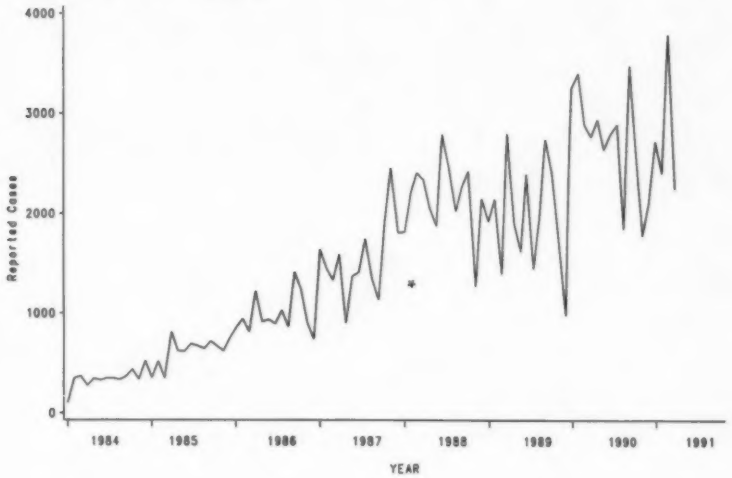
**Pneumonia and influenza.

†Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

††Total includes unknown ages.

§Report for this week is unavailable (U).

FIGURE II. Acquired immunodeficiency syndrome cases, by 4-week period of report – United States, 1984–1991



*Change in case definition.

FIGURE III. Tuberculosis cases, by 4-week period of report – United States, 1984–1991

FIGURE IV. Gonorrhea cases, by 4-week period of report — United States, 1984–1991

FIGURE V. Syphilis cases, by 4-week period of report — United States, 1984–1991

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The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday. Accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials, as well as matters pertaining to editorial or other textual considerations should be addressed to: Editor, *Morbidity and Mortality Weekly Report*, Mailstop C-08, Centers forDisease Control, Atlanta, Georgia 30333; telephone (404) 332-4555.

☆U.S. Government Printing Office: 1991-531-130/22065 Region IV

HHS Publication No. (CDC) 91-8017